August 6, 2025

On behalf of commentators on the proposed repeal of the Carbon Pollution Standards, a series of policy variant cases were run in the FACETS energy system model. The cases include:

- With the Carbon Pollution Standards in place
- Repealing the Carbon Pollution Standards
- Reducing the requirement for long-term coal to a minimum 63% capture rate standard
- Delaying the long-term coal standard compliance deadline by 2 years (CCS based)
- Delaying the medium-term coal standard compliance deadline by 2 years (co-firing based)
- Delaying the new baseload gas CCS standard compliance deadline by 2 years

The policies were run under two baseline scenarios: one reflecting economic and energy system assumptions from 2023 (i.e., the same general baseline utilized by EPA in both the final Carbon Pollution Standards and the proposed repeal) and an updated baseline reflecting 2025 assumptions, such as changes in resource costs, estimated demand projections, and policy considerations.

For all cases, the technology selections, energy consumption, emissions, and system costs were reported. The following tables summarize the emissions and cost results.

2023 Baseline model

Policy variant	2025-2047 cumulative emissions (kt)	Emission reductions (kt)	Emission reduction cost ($/metric ton)
Repeal CPS	16,325,165		
With CPS	13,124,576	3,200,589	12.53
Long-term steam minimum 63% capture	13,124,576	3,200,589	12.53
Long-term steam +2 years	13,314,693	3,010,472	9.10
Medium-term steam +2 years	13,223,874	3,101,291	9.34
Baseload turbines +2 years	12,614,136	3,711,029	10.06

2025 Baseline model

Policy variant	2025-2047 cumulative emissions (kt)	Emission reductions (kt)	Emission reduction cost ($/metric ton)
Repeal CPS	20,828,986		
With CPS	15,457,861	5,371,125	9.61
Long-term steam minimum 63% capture	15,457,861	5,371,125	9.61
Long-term steam +2 years	15,670,046	5,158,940	6.52
Medium-term steam +2 years	15,542,074	5,286,912	6.85
Baseload turbines +2 years	15,365,070	5,463,916	9.37

FACETS is a detailed, technologically-realistic model of the US energy system. It captures the geographical relationships – such as those between renewable resources, electricity loads, and transmission capacity – that are key drivers of the costs of energy system change. In the power sector, it models individual power plants and their dispatch, retrofit, and retirement options, as well as new builds, under projections for future power demand, fuel prices, technology options, and policies.

The solution logic is least cost, subject to policies that may be imposed at federal, regional and state levels. The impacts of these measures can be assessed in the context of technology and market uncertainties, allowing high priority actions that are robust to future risks to be identified.